UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,945	02/17/2004	Robert R. Bushey	LB1022 (00046)	9366

82744 7590 12/04/2009

AT&T Legal Department - JW
Attn: Patent Docketing
Room 2A-207
One AT&T Way
Bedminster, NJ 07921

EXAMINER	
BORSETTI, GREG	

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
12/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/779,945
Filing Date: February 17, 2004
Appellant(s): BUSHEY ET AL.

Joseph P. Lally
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/2/2009 appealing from the Office action mailed 9/17/2008

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is

correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,751,591	Gorin et al.	6-2004
6,138,008	Dunn et al.	10-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by ***Gorin*** (6,751,591).

2. As per claim 4, ***Gorin*** discloses a system for managing recognition errors in a multiple dialog state environment comprising:

an error management module having a global error counter (column 4 lines 3-28, *the training database stores language understanding errors (global errors) collected in interactions with human users)* and a global error set point (column 7 lines 59-67, *the NLU monitor determines whether the input can be understood so that the task can be classified. If the task cannot be classified, i.e. there is a recognition error, the system changes operational flow to attempt to remedy the error. Therefore the system must have an global error set point, since system function transitions from normal recognition to error correction once that point is reached.* Fig. 2 further teaches probability decision block 2200, it is inherent in probability theory to have an error counter to determine an updated probability at each iteration. In the case of Gorin, the probability of correct recognition is determined by past instances of recognition. To determine the probability there must inherently be a counter to determine whether the utterance was correctly recognized in order to correctly reflect the probability at the next iteration*)*;

a user interaction module in communication with the error management module and operable to interact with users to perform at least one interaction task (column 9 line 29 – column 10 line 38 and Figure 1 items 180 and 190*)*;

the user interaction module operable to interact with the user via at least two dialog states (column 9 line 29 – column 10 line 38, *a user's initial response is recognized and either classified into a specific task classification or processed as a recognition error. If the user's initial response is not completely recognized, the dialog manager uses sub-modules to perform a second exchange with the user)*;

the user interaction module operable to determine whether an interaction task has been successfully completed or if a recognition error has occurred (column 9 line 29 – column 10 line 38, *for each exchange with the user the NLU monitor determines whether the input can be understood so that the task can be classified)*;

the user interaction module further operable to communicate the occurrence of a recognition error to the error management module (column 4 lines 3-28, *the training database stores language understanding errors (global errors) collected in interactions with human users)*; and

the user interaction module operable to determine whether to direct a user to an agent based upon the global error counter and the global error set point (column 9 line 29 – column 10 line 38, *for each exchange with the user the NLU monitor determines whether the input can be understood so that the task can be classified. If the input communication is not recognized the dialog manager is signaled to route the call to a human for assistance*);

3. As per claim 5, ***Gorin*** discloses the system of claim 4, and further discloses the

global error set point equal to at least one and the user interaction module directs the user to an agent if the global error counter is equal to the global error set point (column 9 line 29 – column 10 line 38, *for each exchange with the user the NLU monitor determines whether the input can be understood so that the task can be classified. If the input communication is not recognized the dialog manager is signaled to route the call to a human for assistance*);

. .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Gorin*** (6,751,591) in view of ***Dunn*** (6,138,008).

4. As per claim 1, ***Gorin*** a system for managing recognition errors in a multiple dialog state environment comprising:

an error management module having a global error counter (column 4 lines 3-28, *the training database stores language understanding errors (global errors) collected in*

interactions with human users) and a global error set point (column 7 lines 59-67, *the NLU monitor determines whether the input can be understood so that the task can be classified. If the task cannot be classified, i.e. there is a recognition error, the system changes operational flow to attempt to remedy the error. Therefore the system must have an global error set point, since system function transitions from normal recognition to error correction once that point is reached.* Fig. 2 further teaches probability decision block 2200, it is inherent in probability theory to have an error counter to determine an updated probability at each iteration. In the case of Gorin, the probability of correct recognition is determined by past instances of recognition. To determine the probability there must inherently be a counter to determine whether the utterance was correctly recognized in order to correctly reflect the probability at the next iteration*)*;

a first dialog state module operable to interact with a user to perform at least one interaction task (column 9 line 29 – column 10 line 38, *a user's initial response is recognized and either classified into a specific task classification or processed as a recognition error)*;

a second dialog state module operable to interact with a user to perform at least one interaction task (column 9 line 29 – column 10 line 38, *if the user's initial response is not completely recognized, the dialog manager uses sub-modules to perform a second exchange with the user)*;

a third dialog state module operable to interact with a user to perform at least one interaction task (column 9 line 29 – column 10 line 38, *if the second exchange with the*

user is not recognized the dialog manager performs a third exchange with the user);

each dialog state module further operable to:

determine whether the interaction task has been successfully completed or whether a recognition error has occurred (column 9 line 29 – column 10 line 38, *for each exchange with the user the NLU monitor determines whether the input can be understood so that the task can be classified*);

direct the user to an agent if the global error counter equals the global error set point (column 9 line 29 – column 10 line 38, *for each exchange with the user the NLU monitor determines whether the input can be understood so that the task can be classified. If the input communication is not recognized the dialog manager is signaled to route the call to a human for assistance*);

re-prompt the user to complete the interaction task (column 7 lines 12-25);

and selectively directing the user to a subsequent interaction task after successful completion of the interaction task (column 9 line 29 – column 10 line 38, *at each exchange the dialog manager performs either a subsequent exchange for further information to classify the task, or uses a sub-module to perform the specific recognized task)*.

Gorin does not disclose a first dialog state error counter, a first dialog state error set point, a second dialog state error counter, a second dialog state error set point, a third dialog state error counter, and a third dialog state error set point. In the same field

of endeavor, ***Dunn*** teaches a first dialog state error counter, a first dialog state error set point, a second dialog state error counter, a second dialog state error set point, a third dialog state error counter, and a third dialog state error set point (column 5 lines 47 – column 6 line 47). ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state. If the number of errors reaches a predetermined maximum (dialog state error set point), then the call is routed to an operator.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a first dialog state error counter, a first dialog state error set point, a second dialog state error counter, a second dialog state error set point, a third dialog state error counter, and a third dialog state error set point in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

Gorin also does not disclose updating the global error counter and the respective dialog counter if an error is detected. However, ***Gorin*** does disclose a system that stores language understanding errors (global errors) collected in interactions with human users (column 4 lines 3-28). In the same field of endeavor, ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state. If the

number of errors reaches a predetermined maximum (dialog state error set point), then the call is routed to an operator.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to update the global error counter and the respective dialog counter if an error is detected in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

Gorin also does not disclose directing the user to a different dialog state if the respective dialog state error counter equals the respective dialog state error set point. However, ***Gorin*** does disclose that if a communication from the user isn't recognized, the dialog manager conducts further communication (different dialog state) with the user to clarify the user's request (column 9 line 29 – column 10 line 38). Additionally, in the same field of endeavor, ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to direct the user to a different dialog state if the respective dialog state error counter equals the respective dialog state error set point in ***Gorin***, since it would enable the system to correct errors automatically or to interact with the users to repair them, as indicated in ***Gorin*** (column 2 lines 31-34).

Finally, ***Gorin*** does not disclose re-prompting the user to complete the interaction task if the respective dialog state error counter is less than the respective dialog state error set point. However, ***Gorin*** does disclose a dialog manager that re-prompts the user during a dialog to confirm its understanding, and complete the interaction task (column 7 lines 12-25). Additionally, in the same field of endeavor, ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to re-prompt the user to complete the interaction task if the respective dialog state error counter is less than the respective dialog state error set point in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

5. As per claim 2, ***Gorin*** in view of ***Dunn*** disclose the system of claim 1, and ***Gorin*** further discloses the first dialog state module operable to interact with the user via a natural language dialog (column 2 lines 19-34, automated dialog system). ***Gorin*** does not explicitly disclose the second dialog state module operable to interact with the user via a speech directed dialog and the third dialog state module operable to interact with the user via a touch tone dialog. However, ***Gorin*** does disclose that the natural language understanding system is capable of understanding any form of communication which may be expressed verbally, nonverbally, multimodally, etc. (column 3 lines 33),

and includes keypad entries and DTMF codes. This suggests that the system is capable understanding speech directed and touch tone dialog. In addition, ***Dunn*** discloses a system that enables either spoken or touch tone input (column 5 lines 60-67).

Therefore it would have been obvious to one of ordinary skill in the art to have the second dialog state module operable to interact with the user via a speech directed dialog and the third dialog state module operable to interact with the user via a touch tone dialog in ***Gorin***, since one of ordinary skill in the art has good reason to pursue the options within is or her technical grasp in order to accommodate rotary phones, as indicated in Dunn (column 5 lines 60-67), as well as accommodate a users communication preference or need, for example with disabled users.

6. As per claim 3, ***Gorin*** in view of ***Dunn*** disclose the system of 2, and ***Gorin*** further discloses the global error set point equal to at least one (column 7 lines 59-67, *the NLU monitor determines whether the input can be understood so that the task can be classified. If the task cannot be classified, i.e. there is a recognition error, the system changes operational flow to attempt to remedy the error. Therefore the system must have a global error set point, since system function transitions from normal recognition to error correction once that point is reached*). ***Gorin*** does not disclose the first dialog state error set point equal to at least two, the second dialog state error set point equal to at least one, and the third dialog state error set point equal to at least one. ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state. In

each state, the system either continues a dialog with the user or transfers the call to an agent, dependent upon the total number of errors as compared to a predetermined total.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the first dialog state error set point equal to at least two, the second dialog state error set point equal to at least one, and the third dialog state error set point equal to at least one in ***Gorin***, since one of ordinary skill has good reason to pursue the options within his or her technical grasp in order to achieve the predictable result of optimizing the system to meet the needs of the designer.

7. As per claim 6, ***Gorin*** discloses the system of claim 4, however ***Gorin*** does not disclose: the error management having a first dialog state error counter, a second dialog state error counter, and a third dialog state error counter, a first dialog state error set point; a second dialog state error set point and a third dialog state error set point; the user interaction module operable to communicate the occurrence of a recognition error during use of a particular dialog state to the management module. ***Dunn*** teaches a first dialog state error counter, a first dialog state error set point, a second dialog state error counter, a second dialog state error set point, a third dialog state error counter, and a third dialog state error set point (column 5 lines 47 – column 6 line 47). ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state. If the number of errors reaches a predetermined maximum (dialog state error set point), then the call is routed to an operator.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a first dialog state error counter, a first dialog state error set point, a second dialog state error counter, a second dialog state error set point, a third dialog state error counter, and a third dialog state error set point in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

8. As per claim 7, this claim recites limitations similar to those recited in claim 2, and is therefore rejected fro a similar reason.

9. As per claim 8, ***Gorin*** in view of ***Dunn*** disclose the system of claim 7, but ***Gorin*** does not disclose the user interaction module operable to direct a user to the second dialog module to complete the interaction task after detecting a recognition error from the first dialog state module and determining that the first dialog state counter is equal to the first dialog state error set point. However, ***Gorin*** does disclose that if a communication from the user isn't recognized, the dialog manager conducts further communication (different dialog state) with the user to clarify the user's request (column 9 line 29 – column 10 line 38). In addition, ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to direct a user to the second dialog module to complete the interaction task after detecting a recognition error from the first dialog state module and determining that the first dialog state counter is equal to the first dialog state error set point in ***Gorin***, since it would enable the system to correct errors automatically or to interact with the users to repair them, as indicated in ***Gorin*** (column 2 lines 31-34).

10. As per claim 9, ***Gorin*** in view of ***Dunn*** disclose the system of claim 7, but ***Gorin*** does not disclose the user interaction module operable to direct a user to the third dialog module to complete the interaction task after detecting a recognition error resulting from the second dialog state module and determining that the second dialog state counter is equal to the second dialog state error set point. However, ***Gorin*** does disclose that if a communication from the user isn't recognized, the dialog manager conducts further communication (different dialog state) with the user to clarify the user's request (column 9 line 29 – column 10 line 38). In addition, ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to direct a user to the second dialog module to complete the interaction task after detecting a recognition error from the first dialog state module and determining that the first dialog state counter is equal to the first dialog state error set point in ***Gorin***, since it would enable the system to correct errors automatically or to interact with the users to repair them, as indicated in ***Gorin*** (column 2 lines 31-34).

11. As per claim 10, ***Gorin*** in view of ***Dunn*** disclose the system of claim 7, but ***Gorin*** does not disclose the user interaction module operable to direct a user to an agent to complete the interaction task after detecting a recognition error resulting from the third dialog state module and determining that the third dialog state counter is equal to the third dialog state error set point. However, ***Gorin*** does disclose a system that makes repeated attempts to understand an input communication, and if those fail the call is routed to an agent (column 9 line 29 – column 10 line 38). In addition, ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the user interaction module operable to direct a user to an agent to complete the interaction task after detecting a recognition error resulting from the third dialog state module and determining that the third dialog state counter is equal to the third dialog state error set point in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

12. As per claim 11, ***Gorin*** in view of ***Dunn*** disclose the system of claim 7, and ***Gorin*** further discloses the user interaction module operable to re-prompt the user to complete the interaction task using the last-used dialog state module after detecting a recognition error resulting from using the last-used dialog state module (column 7 lines 12-25).However, ***Gorin*** does not disclose determining that the respective dialog state

counter is less than the respective dialog state error set point. ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to determine that the respective dialog state counter is less than the respective dialog state error set point in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

13. As per claim 12, ***Gorin*** in view of ***Dunn*** disclose the system of claim 6, however neither explicitly disclose the global error set point operable to be selectively changed based upon agent availability. However, both ***Gorin*** (column 9 line 29 – column 10 line 38) and ***Dunn*** (column 6 and 7) use error counters that are compared to a pre-determined threshold; that comparison then determining further system function, including when to route the call to an agent.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to the global error set point operable to be selectively changed based upon agent availability in ***Gorin***, since one of ordinary skill has good reason to pursue the options within his or her technical grasp in order to achieve the predictable result of optimizing the system to meet the needs of the designer and system function with a specific environment.

14. As per claim 13, ***Gorin*** in view of ***Dunn*** disclose the system of claim 7, and ***Gorin*** further discloses the user interaction module operable to direct the user to a subsequent interaction task using the last-used dialog state after determining that the interaction task has been successfully completed (column 9 line 29 – column 10 line 38, *at each exchange the dialog manager performs either a subsequent exchange for further information to classify the task, or uses a sub-module to perform the specific recognized task).*

15. As per claim 14, ***Gorin*** discloses an error management module for use with a communication system operable to support a multiple dialog state environment comprising:

a global error counter operable to record the total number of recognition errors experienced by the communication system during an interaction with a particular user (column 4 lines 3-28, *the training database stores language understanding errors (global errors) collected in interactions with human users.* Fig. 2 further teaches probability decision block 2200, it is inherent in probability theory to have an error counter to determine an updated probability at each iteration. In the case of Gorin, the probability of correct recognition is determined by past instances of recognition. To determine the probability there must inherently be a counter to determine whether the utterance was correctly recognized in order to correctly reflect the probability at the next iteration);

a global error set point (column 7 lines 59-67, *the NLU monitor determines whether the input can be understood so that the task can be classified. If the task cannot be classified, i.e. there is a recognition error, the system changes operational flow to attempt to remedy the error. Therefore the system must have an global error set point, since system function transitions from normal recognition to error correction once that point is reached)*;

the error management module operable to provide the global error counter and the global error set point (column 4 lines 3-28 and column 7 lines 59-67).

Gorin does not disclose a second dialog state error counter operable to record the number of errors experienced by the communication system while using a second dialog state during an interaction with a particular user and a second dialog state error point. In the same field of endeavor, ***Dunn*** teaches a second dialog state error counter which records the errors experienced by the system while using a second dialog state, and a second dialog state error set point (column 5 line 47 - column 6 line 47). ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state. If the number of errors reaches a predetermined maximum (dialog state error set point), then the call is routed to an operator.

Gorin also does not disclose a first dialog state error counter operable to record the number of errors experienced by the communication system while using a first

dialog state during an interaction with the particular user, a first dialog state error set point, and the error management module operable to provide the first dialog state error counter, and the first state error set point to the communication system for managing dialog state recognition errors. In the same field of endeavor, ***Dunn*** teaches a first dialog state error counter, a first dialog state error set point, a second dialog state error counter, a second dialog state error set point, a third dialog state error counter, and a third dialog state error set point (column 5 lines 47 – column 6 line 47). ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state. If the number of errors reaches a predetermined maximum (dialog state error set point), then the call is routed to an operator.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to a first dialog state error counter operable to record the number of errors experienced by the communication system while using a first dialog state during an interaction with the particular user, a first dialog state error set point, and the error management module operable to provide the first dialog state error counter, and the first state error set point to the communication system for managing dialog state recognition errors in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

16. As per claim 15, ***Gorin*** in view of ***Dunn*** disclose the error management module of claim 14, however ***Gorin*** does not disclose a third dialog state error counter operable to record the number of errors experienced by the communication system using a third dialog state during an interaction with the particular user, and a third dialog state error set point. ***Dunn*** discloses a wireless telephone menu system that provides the user with a plurality of menu options (dialog states), and uses an error counter to count the number or invalid or unrecognized input communications from the user during a specific dialog state.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to direct a user to the second dialog module to complete the interaction task after detecting a recognition error from the first dialog state module and determining that the first dialog state counter is equal to the first dialog state error set point in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

17. As per claim 16, ***Gorin*** in view of ***Dunn*** disclose the error management module of claim 14, but ***Gorin*** does not disclose the global error counter, first dialog state error counter and second dialog state error counter operable to be selectively reset after completing an interaction with a user. ***Dunn*** discloses resetting the various counters used within the system (column 4 lines 33-35).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to selectively reset the global and first dialog state error counters in ***Gorin***, since one of ordinary skill in the art has good reason to pursue the options within his or her technical grasp in order to achieve the predictable result of maintaining an accurate count of errors for an individual during a task.

18. As per claim 17, this claim recites limitations similar to those recited in claim 16, and is therefore rejected for similar reasons.

19. As per claim18, ***Gorin*** discloses a method for managing recognition errors in a multiple dialog state environment comprising:

setting a global error set point to a predefined value (column 7 lines 59-67, *the NLU monitor determines whether the input can be understood so that the task can be classified. If the task cannot be classified, i.e. there is a recognition error, the system changes operational flow to attempt to remedy the error. Therefore the system must have an global error set point, since system function transitions from normal recognition to error correction once that point is reached.* Fig. 2 further teaches probability decision block 2200, it is inherent in probability theory to have an error counter to determine an updated probability at each iteration. In the case of Gorin, the probability of correct recognition is determined by past instances of recognition. To determine the probability there must inherently be a counter to determine whether the utterance was correctly recognized in order to correctly reflect the probability at the next iteration*)*;

monitoring recognition errors within a multiple dialog state environment

(Abstract);

directing a user to an agent if the global error counter is equal to the global error set point (column 9 line 29 – column 10 line 38, *for each exchange with the user the NLU monitor determines whether the input can be understood so that the task can be classified. If the input communication is not recognized, and the probability of recognizing the communication is low, the dialog manager is signaled to route the call to a human for assistance*).

Gorin does not disclose incrementally increasing a global error counter after a recognition error is detected. However, ***Gorin*** does disclose a global error counter (column 4 lines 3-18). In addition, ***Dunn*** discloses a system that incrementally increases an error counter after a recognition error has occurred (columns 6 and 7).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incrementally increase the global error counter in ***Gorin***, since it would reduce the number of re-prompts at each dialog state, creating a more user friendly system since continuous re-prompts are frustrating to users, as indicated in ***Gorin*** (column 7 lines 47-49).

20. As per claim 19, this claim recites limitations similar to claims 16 and 17, and is therefore rejected for similar reasons.

21. As per claim 20, this claim recites limitations similar to those recited in claim 1, and is therefore rejected for similar reasons.

(10) Response to Argument

Applicant argues "The cited passages of Gorin do not expressly or inherently teach a global error counter as claimed. Neither the word "counter" nor any analogous word are found in the passages relied upon by the Examiner. The word "counter" does not appear in Gorin because Gorin's description of a process for estimating a recognition probability based, in part, on a dialog history does not expressly or inherently describe a global error counter as claimed." (Appeal Brief, Page 6, ¶ 3)

The Examiner disagrees. As was indicated in the final action dated 9/17/2008, Gorin teaches a probability decision block 2200 (Fig. 2) which routes the user based on the probability of recognition. In order to generate a correct probability of recognition, the probability decision block 2200 would inherently have to know the overall error count to generate an accurate probability of correct understanding given the discourse history and an input speech signal. Without knowing what qualifies as an error in the discourse history (column 7, lines 35-58), the probability of correct understanding would not be meaningful because it would be incorrect.

Applicant further argues "As discussed above with respect to claim 4, Gorin does not expressly or inherently disclose a global error counter as claimed. As such, Gorin cannot and does not expressly or inherently describe the use of a global error counter to make a call routing decision based on the counter." (Remarks, Page 6, ¶ 5) The Examiner agrees for the reasons set forth in the previous response.

Applicant further argues "the processes disclosed in Dunn and relied upon by the Examiner as teaching the dialog state error counter and values as claimed do not teach what is claimed. Whereas claim 1 expressly differentiates between global error counters, which are used to determine when to route a caller to an agent, and dialog state error counters, which are used to determine when to route a caller to a different dialog state module, the portion of Dunn cited by the Examiner as teaching dialog state error counters discusses when to route a caller to an agent or when to disconnect the caller entirely. Routing the caller to an agent is clearly not routing a caller to another dialog state module because claim 1 expressly differentiates between the two. Appellants would further submit that disconnecting a caller entirely cannot be reasonably considered to constitute routing the caller to another dialog state module as claimed." (Remarks, Page 8, ¶ 1)

The Examiner disagrees. In the broadest reasonable interpretation a dialog state is simply another portion of a natural language user interaction. Furthermore, Fig. 3 of Gorin clearly teaches adaptation of dialog strategies (change of dialog states) based on the probability of correct understanding, see 3500/3700. The argument is not persuasive.

Applicant further argues "The Examiner correctly acknowledges that Gorin does not disclose the second dialog module being a speech directed dialog module and the third dialog module being a touch tone dialog module.7 The Examiner attempts to support the rejection by alleging that, because Gorin's description of its natural

language system encompasses "any form of communication," it would have been obvious to implement a second dialog module as a speech directed module and the third dialog module as a touch tone module. Assuming solely for the sake of this discussion that Gorin's description of a natural language system encompasses all three types of dialog modules recited in claim 2, claim 2 expressly recites that each of the three dialog modules has its own error counter and set point. There is nothing in Gorin's description of a natural language system as accommodating multiple types of input that teaches the use of three distinctly different dialog modes and the use of distinct counters and set points for each of the three dialog modules" (Remarks, Pages 8-9).

The Examiner disagrees. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The rejection is directed to a combination of Gorin and Dunn where Gorin provides multiple input modalities. In addition, Dunn teaches spoken or touch tone input for menu items where Dunn's system has error counters per menu items (column 6, lines 39-47). The argument is not persuasive.

Applicant further argues "Examiner again relied upon Dunn's disclosure of a timeout limit and an invalid response limit to support the rejection. Again, however, whereas claim 6 recites a distinction between the error counter used to determine when to route the user to an agent, i.e., a global error counter and set point, and dialog error

counters and set points as claimed, Dunn does not teach a counter and set point that are used in the manner distinct from the manner in which the global error counter and set point is used." (Remarks, Page 9, ¶ 3)

The Examiner disagrees. In the broadest reasonable interpretation a dialog state is simply another portion of a natural language user interaction. Furthermore, Fig. 3 of Gorin clearly teaches adaptation of dialog strategies (change of dialog states) based on the probability of correct understanding, see 3500/3700. The argument is not persuasive.

Applicant further argues "Claim 7 expressly recites the use of three dialog modules. There is nothing in Gorin's description of an natural language system as accommodating multiple types of input that teaches the use of three distinctly different dialog modes. Thus, even if Gorin' s natural language system encompasses systems analogous to the directed speech system and touch tone systems claimed, the references still do not teach all of the elements recited in claim 7." (Remarks, Page 10, ¶ 2)

The Examiner disagrees. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The rejection is directed to a combination of Gorin and Dunn where Gorin provides multiple input modalities. In addition, Dunn teaches spoken

or touch tone input for menu items where Dunn's system has error counters per menu items (column 6, lines 39-47). The argument is not persuasive.

Applicant further argues "Undeterred by the lack of teaching in the prior art, however, the Examiner simply states that, despite the absolute lacking of teaching in the cited references of the claimed element, the claimed element would have been an obvious modification of the two references. Appellants respond that KSR itself expressly states that a Section 103(a) rejection is premised upon the presence of the claimed elements in the prior art. Here, where the Examiner admits that the claimed elements are not found in the prior art, the Section 103(a) rejection must be improper." (Remarks, Page 10, ¶ 3-4)

The Examiner disagrees. MPEP 2141, Section III. RATIONALES TO SUPPORT REJECTIONS UNDER 35 U.S.C. 103, clearly states "Prior art is not limited just to the references being applied, but includes the understanding of one of ordinary skill in the art." Further, " The prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." The Examiner has clearly put on the record and contends that it would have been obvious to one of ordinary skill in the art at the time of the invention to the global error set point operable to be selectively changed based upon agent availability in Gorin, since one of ordinary skill has good reason to pursue the options within his or her technical grasp in order to achieve the predictable result of

optimizing the system to meet the needs of the designer and system function with a specific environment. Thus, under MPEP 2141, section IV. APPLICANT's REPLY, "Once Office personnel have established the Graham factual findings and concluded that the claimed invention would have been obvious, the burden then shifts to the applicant to (A) show that the Office erred in these findings or (B) provide other evidence to show that the claimed subject matter would have been nonobvious." A allegation by Applicant that the prior art fails to explicitly teach the limitations has no bearing when the rejection has clearly stated that the limitation would have been obvious given the combination of Gorin and Dunn and the motivation provided in Gorin. Thus, the argument can be merely construed as a mere allegation of patentability absent a direct argument as to the nonobviousness of the rejection. The argument is not persuasive.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Greg A. Borsetti/
Examiner, Art Unit 2626

/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626

Conferees:

/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626

/Talivaldis Ivars Smits/
Primary Examiner, Art Unit 2626